

VERSION WITH MARKING TO SHOW CHANGES MADE  
IN THE SPECIFICATION

**TRANSPARENT SMALL MEMORY CARD**

**BACKGROUND OF THE INVENTION**

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**FIELD OF THE INVENTION**

The present invention relates to a transparent small memory card, and more particular to a small memory card with special style.

**DESCRIPTION OF THE RELATED ART**

Referring to FIG. 1 showing the side schematic illustrates of a prior memory 10 card, the golden finger 15 is used to insert into a slot of a computer main-board, there are active elements and passive elements on the module card, the active elements usually are packed into an integrated circuit 11. Each integrated circuit 11 encapsulated a chip 12, which may be a memory chip, for example a flash memory chip. The pins 13 of integrated circuit 11 are mounted on the printed 15 circuit board 14 of the memory card by SMT, the printed circuit board 14 has solder points 17 connected to pins13.

The conventional memory card is packaged by the opaque glue layer, first step was to encapsulate the chip 12 into integrated circuit 11, then mount the integrated circuit 11 on the printed circuit board 14 by SMT, but the 20 manufacturing process is inconvenient, either the surface unable display the

special style and reveal the mark of the chip 12, so we must especially stamp the mark on the glue layer, absolutely add the manufacturing cost. A chip 12 must be packed then mounted on the circuit board 14, so more steps is unnecessary leads to the manufacturing cost will be increased. As to a memory card always includes 5 many ICs so that the integrated circuit 11 must be mounted on the PCB 14 one by one during manufacturing the module card. Moreover, the cost of SMT is expensive, special the manufacture devices such as a SMT machine and a solder furnace will extra the cost of equipment.

#### **SUMMARY OF THE INVENTION**

10       The object of the present invention is to provide a transparent small memory card may be manufactured conveniently, the manufacturing processes may be simplified and the manufacturing cost may decrease.

Another object of the present invention is to provide a transparent small memory card with the revealed mark of the chip to rid of the manufacturing 15 process of stamp mark on the glue layer.

To achieve the above-mentioned object, the present invention includes a substrate, at least one memory chip and a transparent glue layer. The substrate has an upper surface, a lower surface. The upper surface is formed with a plurality of connected points and a plurality of golden fingers to electrically connect to the 20 plurality of connected points. the substrate is arranged on the upper surface of the substrate, so that the plurality of the golden fingers of the upper surface may be electrically connected an electrical device. The memory chip, which is arranged

on the upper surface of the substrate, and is electrically connected to the connected points of the substrate. The transparent glue layer is encapsulated on memory chip to protect the memory chip and display the mark of the memory chip.

5 According to one aspect of the present invention, the heat of the memory chip may be traveled via the disperse heat slice. Therefore, proving the durability and dependability of small memory card.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a schematic illustrates showing a conventional small memory card  
10 structure.

FIG. 2 is the first cross-sectional view illustrates showing a transparent small memory card of the present invention.

FIG. 3 is the second cross-sectional view illustrates showing a transparent small memory card structure of the present invention.

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#### **DETAILED DESCRIPTION OF THE INVENTION**

FIG. 2 is showing the cross-section view illustrates showing a transparent small memory card of the present invention, which included a substrate 20, two upper memory chips 22 and a transparent glue layer 24.

The substrate 20 is formed with an upper surface 26 and a lower surface 28,  
20 the upper surface 26 is formed with a plurality of connected points 30 and a

plurality of golden fingers 32 are electrically connected to a plurality of connected points 30, the substrate 20 is to be set in an electric device, so that the plurality of golden fingers 32 may be electrically connected to the electric device.

Two memory chips 22, which are arranged on the upper surface 26 of the  
5 substrate 20, and are electrically connected to a plurality of connected points 34 of the upper surface 26 of the substrate 20 via a plurality of wires 34.

A transparent glue layer 24 is encapsulated on two memory chips 22 to protect the memory chips 22 and display the mark on the memory chip 22 or the substrate 20.

10 Referring to FIG.3 is the second cross-sectional view illustrates showing a transparent small memory card structure of the present invention, in the embodiment include four memory chips 22, the lower surface 28 of the substrate 20 is formed with connected points 36, wherein the two memory chips 22 are mounted on the upper surface 26 of the substrate 20, and further the two memory  
15 chips 22 are electrically connected to the connected points 36 of lower surface 28 of the substrate 20 by wires 34.

The transparent glue layer 24 is encapsulated the upper surface 26 and lower surface 28 of the substrate, so that the four memory chips 22 may be protected.

Referring to FIG.4, the mark of the four memory chips 22 or the substrate 20  
20 may be revealed, so there is no need to stamp another mark on the memory card, the manufacturing processes may be simplified and the manufacturing cost may

be decrease.

Therefore, the small memory card of the present invention has the following advantages.

Since the upper memory chip 22 is mounted on the substrate 20, and then  
5 the memory chip 22 is encapsulated in glue layer 24, so the manufacturing  
processes may be simplified and the manufacturing cost may decrease.

Since the mark of the memory chip 22 or the substrate 20 may be displayed  
through transparent glue layer 24, so the memory or the substrate may be  
recognized easily, the manufacturing process may be also decreased.

10 While the invention has been described by way of an example and in terms  
of a preferred embodiment, it is to be understood that the invention is not limited  
to the disclosed embodiment. To the contrary, it is intended to cover various  
modifications. Therefore, the scope of the appended claims should be accorded  
the broadest interpretation so as to encompass all such modifications.